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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/823,283

04/13/2004

Tremitchell L. Wright

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06/29/2009

WHIRLPOOL PATENTS COMPANY - MD 0750  
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ST. JOSEPH, MI 49085

EXAMINER

WILKINS III, HARRY D

ART UNIT

PAPER NUMBER

1795

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/823,283	<b>Applicant(s)</b> WRIGHT ET AL.	
	<b>Examiner</b> Harry D. Wilkins, III	<b>Art Unit</b> 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 29 April 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 2-4,8,13,14,16-23,26 and 33-49 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2-4,8,13,16-23,26,33,34,37 and 41-49 is/are allowed.
- 6) ☒ Claim(s) 14,35,36 and 38-40 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

**DETAILED ACTION**

***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 35, 14, 36 and 39-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCallum (US 4,085,028) in view of Price et al (US 2003/0213503).

McCallum teaches (see abstract, figures and detailed description, particularly example IV) an electrolytic cell device for producing a household bleach solution containing sodium chlorite. The device included an electrolytic cell (58) including a first metallic plate (30), a last metallic plate (31) and a plurality of bipolar intermediate metallic plates (33), each being arranged essentially parallel to each other as claimed, a connection from the first plate to the positive electrode of a source of direct current and a connection from the last plate to the negative electrode of a source of direct current, a conduit (unlabeled pipe leading from part 57 to part 58) connecting to a source of water

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(50) to deliver water to the electrolytic cell, an inlet (where the conduit enters cell 58) to allow introduction of the water to be decomposed by the cell and an outlet to allow dispensing of product from the cell and a storage space (52) provided to hold a supply of salt (rock salt filled concentrator).

McCallum teaches providing the storage space arranged to receive a supply of a salt composition in solid form located outside the enclosure of the electrolytic cell.

However, the specific claim language used is “a *segregated* storage space provided in said enclosure defining the operative area of the electrochemical cell device downstream of said inlet and upstream of said outlet arranged to receive a supply of a salt composition in solid form to be dissolved by water obtained from the conduit”.

Thus, the structural limitation present is the presence of a separate storage space for the solid form of the salt within the “enclosure”. The claimed “arranged” feature does not structurally limit the claimed apparatus. See MPEP 2114. It only relates to the intended use of the storage space. Thus, any segregated space within the entire “enclosure” of the electrolytic cell which was capable of receiving a supply of a salt composition in solid form would meet this claim limitation. As such, McCallum does not teach a separate space within the enclosure to store a solid salt composition.

Price et al teach (see paragraph [0067]) that the manner of providing the necessary salt to the electrolyte flowing through an electrolytic cell could include use of salt tablets arranged either in a porous basket or a “salt chamber” which included a “salt void” formed in a body of the device and which was placed in fluid communication with the portion of the water passing through the electrolytic cell.

Therefore, it would have been obvious to one of ordinary skill in the art to have provided a “salt chamber” as disclosed by Price et al in the device of McCallum for storing solid salt to be dissolved into the electrolyte. The salt chamber of Price et al would meet the limitation of a separated storage space. Further, arranging such enclosure at any convenient location in the flow path of McCallum would have been a routine matter of design choice to one of ordinary skill in the art. The advantage of using the salt chamber of Price et al instead of the saturator of McCallum would be the advantage of utilizing less space within the device for storage of the salt. The salt chamber of Price et al, through which the water flows, utilizes significantly less space within the device compared to using the saturator tank of McCallum, even though both devices achieve the same result of ensuring adequate halide salt within the water to be electrolyzed to produce hypochlorite.

Further, McCallum fails to teach that the system included an automatic cleaning appliance and a sensing/control system as claimed.

However, McCallum does teach that manual control of the electrolytic cell was known by taking a manual measurement of the sodium hypochlorite concentration downstream of the electrolytic cell and adjusting the settings of the cell as necessary. In general, it has been held that automation of a previous manual activity is obvious to one of ordinary skill in the art absent a showing of unexpected results. See *In re Venner* (120 USPQ 192), *In re Rundell* (9 USPQ 220). Thus, one of ordinary skill in the art would have been motivated to have added an automatic controller for monitoring the

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concentration of hypochlorite and adjusting the settings of the electrolytic cell accordingly to maintain the concentration within a desired range.

McCallum teaches production of a sodium hypochlorite bleach solution.

Price et al shows an automatic cleaning appliance, such as a dishwasher, which included an electrolytic cell for producing a hypochlorite solution for enhancing the cleaning action of the dishwasher. Such conventional dishwashers included a cleaning cavity into which cleaning chemicals were dispensed.

Therefore, it would have been obvious to one of ordinary skill in the art to have utilized the electrolytic cell of McCallum in combination with the automatic cleaning appliance of Price et al because the electrolytic cell device of McCallum was capable of achieving steady, high concentrations of sodium hypochlorite at high efficiencies.

Regarding claim 14, the device of McCallum included a rectified alternating current source as the source of direct current.

Regarding claim 39, the sodium hypochlorite adjusted the pH of the water.

Regarding claim 40, the concentration of sodium hypochlorite in the wash liquor would have been indicative of both the pH and oxidation reduction potential of the wash liquor.

4. Claim 38 is rejected under 35 U.S.C. 103(a) as being unpatentable over McCallum (US 4,085,028) in view of Price et al (US 2003/0213503) as applied above to claim 35 above, and further in view of Bentley (US 6,716,325).

McCallum fails to disclose a back-washing mechanism arranged to remove materials deposited onto said plates during said period of decomposition.

Bentley is relevant because it is directed to an electrolytic cell for generation of hypochlorite. Bentley teaches including a back-washing mechanism arranged to remove materials deposited onto said plates during said period of decomposition (col. 1 lines 41-47). Bentley further notes hypochlorite generators have the tendency to form calcareous and magnesium deposits on the cathode and can become inefficient as a result (col. 1 lines 41-47).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to add a back-washing mechanism of Bentley in the hypochlorite generator taught by McCallum in order to alleviate the issue of deposits forming on the cathode and thus increasing overall efficiency.

### ***Response to Arguments***

5. Applicant's arguments with respect to claim 35 as amended have been considered but are moot in view of the new ground(s) of rejection.

### ***Allowable Subject Matter***

6. Claim 34 and its dependent claims 2-4, 8, 13, 16-23, 26 and 33 are allowed.
7. Claim 41 and its dependent claims 42-49 are allowed.
8. Claim 37 is allowed.

### ***Conclusion***

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Harry D Wilkins, III/  
Primary Examiner, Art Unit 1795

hdw